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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,414	02/27/2002	Scott Phillip Neale Taylor	CU-2825 RJS	1158

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EXAMINER

JULES, FRANTZ F

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,414

Applicant(s)

TAYLOR, SCOTT PHILLIP NEALE

Examiner

Frantz F. Jules

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-- The MAILING DATE of this communication appears on the reverse with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-48 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 14-29 is/are rejected.
- 7) ☒ Claim(s) 30-48 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 16-25 are objected to because of the following informalities:

The claim information provided on page 4 is not legible due to printing informalities.

Applicant is to provide an amended copy of claims 16-25 to correct current deficiency.

Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the recitation of "a secondary running face lies immediately adjacent to and substantially parallel to" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Fig. 9 of the drawings show a secondary running face (38) which is not parallel to the primary running running face (54)

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 14-23, 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bishop (US 5,730,064) in view of Chollet (4,982,671).

Claims 14-23, 27-29

Bishop discloses a vehicle comprising a self-steering railway bogie with at least one steerable wheelset adapted to run on a guideway having two primary running faces laterally offset about the centerline of the guideway, the wheelset comprising a pair of wheels (2), each wheel located on apposite sides of the wheelset adapted to engage with a respective one of the two primary running faces, the vehicle further comprising a mechanism arranged and constructed for steering the bogie in response to the inclination angles of the axle sets operably connected to an actuating means to steer the wheels in response to the sensed steer angle, the axes of rotation of the wheels and the primary running faces are inclined downwardly toward the guideway centerline; wherein each wheel exerts an engagement force with its respective primary running face, the engagement force on each wheel comprising a perpendicular component to its respective primary running face and a parallel component to its respective primary running face substantially perpendicular to the guideway centerline, wherein horizontal forces acting on the wheelset substantially transversed to the guideway centerline are substantially resisted by the sum of the horizontal vectors of the perpendicular components; wherein each wheel exerts an engagement force with its respective primary running face at a

contact zone, the engagement force on each wheel comprising a first component perpendicular to its respective primary running face and a second component parallel to its respective primary running face substantially transverse to the guideway centerline, wherein a first plane perpendicular to the axis of rotation of one of the wheels passes through the centroid of its respective contact zone, and a second plane perpendicular to the rotation of the other wheel passes through the centroid of its respective contact zone, the first and second planes intersecting along an intersection line disposed above and between the wheels, wherein horizontal forces acting on the wheelset substantially transverse to the guideway centerline at or near the intersection line are substantially resisted by perpendicular components of the engagement forces acting at the primary running faces, such that substantially all of the parallel components of the engagement forces acting at the primary running faces are available to steer the wheelset, wherein the intersection line passes through the center of gravity of vehicle, wherein the sensing means comprises at least one sensor located either ahead or behind the wheelset, or laterally offset with the wheelset.

Bishop discloses all of the features as listed above but does not disclose a vehicle wherein sensing means comprising of a sensor positioned either ahead, behind or laterally offset with the wheelset for sensing lateral displacement of the wheelset with

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respect to a longitudinally disposed reference path including a control system for processing the sensed signal are provided. The general concept of providing sensing means comprising of a sensor positioned either ahead, behind or laterally offset with the wheelset for sensing lateral displacement of the wheelset with respect to a longitudinally disposed reference path including a control system to a vehicle is well known in the art as illustrated by Chollet et al which disclose in figs. 1-8 the use of sensing means (14, 15, 20) comprising of a sensor positioned either ahead, behind or laterally offset with the wheelset for sensing lateral displacement of the wheelset with respect to a longitudinally disposed reference path including a control system for processing the sensed signal to a self steering device, see col. 1, lines 55-68, col. 2, lines 15-17. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bishop to include the use of sensing means comprising of a sensor positioned either ahead, behind or laterally offset with the wheelset for sensing lateral displacement of the wheelset with respect to a longitudinally disposed reference path including a control system for processing the sensed signal to a self steering device in order to facilitate proper steering of the vehicle when negotiating a curve, thereby reducing sliding when negotiating a curve.

1. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bishop and Chollet as applied to claims 14, and 16 above, and further in view of Hase (EP 945 327 A2).

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Claims 24-26

Chollet et al and Bishop teach all the limitations of claims 24-26 except for a self-steering vehicle comprising sensing means positioned on a longitudinally disposed reference path which is substantially contiguous with the guideway centerline. The general concept of providing sensing means positioned on a longitudinally disposed reference path which is substantially contiguous with the guideway centerline is well known in the art as illustrated by Hase which illustrates the use of sensing means (56, 56') positioned on a longitudinally disposed reference path (22) which is substantially contiguous with the guideway centerline of a self-steering vehicle. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chollet et al and Bishop to include the use of sensing means positioned on a longitudinally disposed reference path which is substantially contiguous with the guideway centerline in his advantageous self-steering vehicle as taught by Hase in order to increase the performance of the self-steering device while simplifying the number of parts.

Allowable Subject Matter

5. Claims 30-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the references of record suggests a vehicle with at least one steerable wheelset adapted to run on a guideway having two primary running faces laterally offset about the centerline of the guideway, the wheelset comprising a pair of wheels, the vehicle comprising sensing means for sensing lateral

displacement of the wheelset with respect to a longitudinally disposed reference path or the track, the sensing means producing a signal for a control system operably connected to an actuating means to steer the wheels in response to the sensed lateral displacement, the axes of rotation of the wheels and the primary running faces being inclined downwardly toward the guideway centerline, wherein a secondary running face lies immediately adjacent to, and substantially parallel to, at least one of the primary running faces in the manner defined in the instant claims 30, 31, and 32. Also, none of the references of record suggests a vehicle with at least one steerable wheelset to run on a primary running faces which are inclined downwardly toward the guideway centerline, wherein a secondary running face lies immediately adjacent to and substantially parallel to each primary running face and the longitudinally disposed reference path is contiguous with the lateral centerline between the respective two secondary running faces in the manner defined in the instant claims 36-38. Moreover, none of the references of record suggests a vehicle with at least one steerable wheelset to run on a primary running faces which are inclined downwardly toward the guideway centerline, the vehicle comprising sensing means for sensing lateral displacement of the wheelset with respect to a longitudinally disposed reference path or the track, the sensing means producing a signal for a control system operably connected to an actuating means to steer the wheels in response to the sensed lateral displacement, wherein the control system calculates a virtual longitudinally disposed reference path which is not necessarily parallel or contiguous with the guideway centerline in the

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manner defined in the instant claim 48. Therefore, claims 33, 34-35, 39, 40-48, depending therefrom, are considered to be allowable.

Response to Arguments

6. Applicant's arguments filed 08/08/03 have been fully considered but they are moot in view of the new grounds of rejection.

Applicant's argument that Chollet disclose vehicle bogie having axles that are steered relative to each other and not with respect to the vehicle body has been addressed by the new grounds of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 308-8780. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 308-0230. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Frantz F. Jules
Examiner
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FFJ

September 11, 2003

FRANTZ F. JULES
PATENT EXAMINER

A handwritten signature in black ink, appearing to read 'Frantz', written over the printed name and title.